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EXAMINER

NGUYEN, P

ART UNIT PAPER NUMBER

2739

DATE MAILED: 09/13/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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# Office Action Summary

Application No.  
**09/174,002**

Applicant(s)  
**Erik H. Boch, Alan Jaakkola**

Examiner  
**Phuongchau Ba Nguyen**

Group Art Unit  
**2739**



☒ Responsive to communication(s) filed on Jun 26, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 26-44 is/are pending in the applicat

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 26-37 and 39-43 is/are rejected.

☒ Claim(s) 38 and 44 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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***Response to Amendment***

1. It is noticed that claims 24-42 have been renumbered as 26-44 respectively.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim[s] 26-28, 30, 34-35, 39, 42-43 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al [6,016,311].

Gilbert discloses in figure 4 that the wireless communication system 100 comprises a plurality of cells 102. Each cell 102 contains an associated cell site 104 which primarily includes a base station 106 and an active antenna array 108 [a first and second of one or more interface radio cards as claimed]. Each cell 102 within the wireless communication system 100 provides wireless connectivity between the cell's base station 106 and a plurality of customer premises equipment (CPE) 110 located at fixed customer sites 112 [NIUs as claimed] throughout the coverage area of the cell 102. The radio communication within a cell 102 is preferably bi-directional in nature. {col.9, 57-col.10, 34}

Gilbert also discloses that one of the base stations is controlled by a network management 122 [network manager as claimed].{col.10,52-56}

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In addition, Gilbert further discloses that in cellular communication systems, geographic areas or regions are typically divided into cells that are theoretically hexagonally shaped. The size of a cell is typically defined by the transmitting coverage of a base station which is usually centered within the cell it serves. For example, the average cell radius of the cells shown in FIG. 4 is typically between 2.5 and three kilometers. {col.9, 43-49}

Gilbert does not explicitly disclose an interface system for providing a point to point inter-cell radio link for communicating with a base station in a neighboring cell.

Gilbert further discloses in figure 4 that the two base stations 106 are connected by a wired cable.

To implement the radio inter-cell link to the wired/fiber-optical/coaxial cable would have been highly desirable and obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to reduce the highly cost of setting up a connecting cables between a two or more base stations.

Although Gilbert does not explicitly disclose the multi-services switch at each of base stations, but since the base station comprises an array antenna (which is a plurality of antennas), thus, the switch is inherent in the array antenna to control the active of the array antenna at each of base stations.

4. Claim[s] 31 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al [6,016,311] as applied to claims 30, 35 above, and further in view of Smith et al [5,432,780].

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Gilbert does not disclose that each of said first one or more interface cards and each of said second one or more interface cards communicates with said sectorized antenna via one or more combiners.

Smith discloses a five channel combiners 282, representative of the combiner 455 or 475 of figures 4A & 4B, connected to antenna sector X {see fig. 4C}.

To implement the combiner in Smith system to Gilbert's base station would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to carry out diversity combining for the signals and reduce the disadvantages caused by a fading signal.

5. Claim[s] 29 & 36-37 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al [6,016,311] as applied to claims 30, 35 above, and further in view of Pasternak et al [5,936,949].

Gilbert does not disclose that the cellular wireless network is connected to an asynchronous transfer mode network (ATM).

Pasternak further discloses that a base station 205 is connected to the service provider's backbone network (i.e., ATM network) {see col.5, 58-60 and figure 2}.

To include the feature of connecting the cellular wireless network to ATM network would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to provide an efficient point-to-multipoint microwave ATM network including a base station broadcasting a continuous transmission with a sector antenna {see abstract, lines 1-4}.

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6. Claim[s] 32, 40 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al [6,016,311] as applied to claims 30, 35 above, and further in view of Jaisingh et al [6,009,096].

Gilbert does not disclose that radio inter-cell link is in a ring configuration.

Jaisingh discloses a sonet ring 208 [ring configuration as claimed] in figure 2A for joining together a plurality of access nodes 204-1, 204-2...204-5 {see figure 2A}

To implement the sonet ring 208 in Jaisingh system to Gilbert system would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to help isolate the broken ring/connection between nodes by re-creating a new connection, thus give the ring network great flexibility, reliability, and ease of configuration and maintenance.

7. Claim[s] 33, 41 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al [6,016,311] as applied to claims 30, 35 above, and further in view of Acompora [6,049,593].

Gilbert does not disclose that radio inter-cell link is in a mesh configuration.

Acompora discloses a mesh network 100 in figure 2.

To implement the mesh network in Acompora system to Gilbert system would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to provide efficient alternative transmission link of high quality incase the primary path between two sites (base stations) were congested or in a state of failure.

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*Allowable Subject Matter*

8. Claims 38 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is (703) 305-0093.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen, can be reached on (703) 308-5340. The fax number for this group is (703)305-9509.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-3900.

  
P. NGUYEN

September 8, 2000

  
MELVIN MARCELO  
PRIMARY EXAMINER